

Semiannual Program Review Checklist Mid-Year 2019

Institutional Policies and Responsibilities: Cincinnati Date: Mid-Year 2019

1. Animal Care and Use Program NEW							A*	M	S	C	NA
• Responsibility for animal well-being is assumed by all members of the program (<i>Guide, p 1</i>) [must]							X				
• IO has authority to allocate needed resources (<i>Guide, p 13</i>)							X				
• Resources necessary to manage program of veterinary care are provided (<i>Guide, p 14</i>) [must]							X				
• Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the <i>Guide</i> (<i>Guide, pp 11, 15</i>)							X				
• Program needs are regularly communicated to IO by AV and/or IACUC (<i>Guide, p 13</i>)							X				
• Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (<i>Guide, p 14</i>) [must]							X				
• Inter-institutional collaborations are described in formal written agreements (<i>Guide, p 15</i>)											X
• Written agreements address responsibilities, animal ownership, and IACUC oversight (<i>Guide, p 15</i>)											X
2. Disaster Planning and Emergency Preparedness NEW							A*	M	S	C	NA
• Disaster plans for each facility to include satellite locations are in place (<i>Guide, p 35, p 75</i>) [must]							X				
• Plans include provisions for euthanasia (<i>Guide, p 35</i>) [must]							X				
• Plans include triage plans to meet institutional and investigators' needs (<i>Guide, p 35</i>)							X				
• Plans define actions to prevent animal injury or death due to HVAC or other failures (<i>Guide, p 35</i>)							X				
• Plans describe preservation of critical or irreplaceable animals (<i>Guide, p 35</i>)							X				
• Plans include essential personnel and their training (<i>Guide, p 35</i>)							X				
• Animal facility plans are approved by the institution and incorporated into overall response plan (<i>Guide, p 35</i>)							X				
• Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (<i>Guide, p 35</i>)							X				
3. IACUC NEW							A*	M	S	C	NA
• Meets as necessary to fulfill responsibilities (<i>Guide, p 25</i>) [must]							X				
• IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (<i>Guide, p 26</i>) [must]							X				
• Continuing IACUC oversight after initial protocol approval is in place (<i>Guide, p 33</i>)							X				
• IACUC evaluates the effectiveness of training programs (<i>Guide, p 15</i>)							X				
4. IACUC Protocol Review - Special Considerations							A*	M	S	C	NA
• Humane endpoints are established for studies that involve tumor models, infectious diseases, vaccine challenge, pain modeling, trauma, production of monoclonal antibodies, assessment of toxicologic effects, organ or system failure, and models of cardiovascular shock (<i>Guide, p 27</i>)							X				
• For pilot studies, a system to communicate with the IACUC is in place (<i>Guide, p 28</i>)											X
• For genetically modified animals, enhanced monitoring and reporting is in place (<i>Guide, p 28</i>)											X
• Restraint devices NOT use in protocols (<i>Guide, p 29</i>) [must]							X				
• Surgical Procedures are not used in protocols (<i>Guide, p 30</i>)							X				
• No protocols with food/fluid restriction for >12 hours (<i>Guide, p 31</i>)							X				
• written records are maintained for food/fluid restricted animals (<i>Guide, p 31</i>)							X				
• Pharmaceutical grade chemicals are used, when available, for animal-related procedures (<i>Guide, p 31</i>)							X				

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• Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC (<i>Guide</i> , p 31)					X
• Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (<i>Guide</i> , p 32)	X				
• Disposition plans are considered for species removed from the wild (<i>Guide</i> , p 32)					X
• Toe-clipping only used when no alternative, performed aseptically and with pain relief (<i>Guide</i> , p 75)					X

5. IACUC Membership and Functions A* M S C NA

• IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, IV.A.3.)	X				
• Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (<i>Guide</i> , p 24) ⁱ	X				
• IACUC authority and resources for oversight and evaluation of institution's program are provided (<i>Guide</i> , p 14)	X				
• IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, IV.B.)	X				
• Conducts semiannual inspections of institutional animal facilities (PHS Policy, IV.B.)	X				
• IACUC organizationally reports to the Institutional Official (PHS Policy, IV.A.1.b.)	X				
• Methods for reporting and investigating animal welfare concerns are in place (<i>Guide</i> , p 23) [must]	X				
• Reviews and investigates concerns about animal care and use at institution ⁱⁱ (PHS Policy, IV.B.)	X				
• Procedures are in place for review, approval, and suspension of animal activities ⁱⁱⁱ (PHS Policy, IV.B.)	X				
• Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, IV.B.)	X				
• Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (<i>Guide</i> , p 27-32)					X

6. IACUC Training NEW A* M S C NA

• All IACUC members should receive:					
◦ Formal orientation to institution's program (<i>Guide</i> , p 17)	X				
◦ Training on legislation, regulations, guidelines, and policies (<i>Guide</i> , p 17)	X				
◦ Training on how to inspect facilities and labs where animal use or housing occurs (<i>Guide</i> , p 17)	X				
◦ Training on how to review protocols as well as evaluate the program (<i>Guide</i> , p 17)	X				
◦ Ongoing training/education (<i>Guide</i> , p 17)	X				

7. IACUC Records and Reporting Requirements^{iv} A* M S C NA

• Semiannual report to the IO (PHS Policy, IV.B.)					
◦ Submitted to IO every 6 months	X				
◦ Compiles program review and facility inspection(s) results (includes all program and facility deficiencies)	X				
◦ Includes minority IACUC views	X				
◦ Describes IACUC-approved departures from the <i>Guide</i> or PHS Policy and the reasons for each departure ^v	X				
◦ Distinguishes significant from minor deficiencies	X				
◦ Includes a plan and schedule for correction for each deficiency identified ^{vi}	X				
• Reports to U.S. Department of Agriculture (USDA) or Federal funding agency ^{vii}					
◦ Annual report to USDA contains required information including all exceptions/exemptions	X				
◦ Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards					X

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○ Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies	X				
○ Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency	X				
• Records (PHS Policy, IV.E.)					
○ IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years	X				
○ Records of IACUC reviews of animal activities include all required information ^{viii}	X				
○ Records of IACUC reviews are maintained for 3 years after the completion of the study	X				

8. Veterinary Care (See also next section - Veterinary Care)

	A*	M	S	C	NA
• An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care ^{ix}	X				
• Veterinary access to all animals is provided (Guide, p 14) [must]	X				
• Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (Guide, p 14) [must]	X				
• Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (Guide, p 5) [must]	X				
• Veterinarian provides consultation when interventional control is not possible (Guide, p 5) [must]	X				
• If part time /consulting veterinarian, visits meet programmatic needs (Guide, p 14)	X				
• Regular communication occurs between veterinarian and IACUC (Guide, p 14)	X				
• Veterinarian(s) have experience and training in species used (Guide, p 15) [must]	X				
• Veterinarian(s) have experience in facility administration/management (Guide, p 15)	X				

9. Personnel Qualifications and Training

	A*	M	S	C	NA
• All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [must]					
○ Veterinary/other professional staff (Guide, p 15-16)	X				
○ IACUC members (Guide, p 17)	X				
○ Animal care personnel (Guide, p 16)	X				
○ Research investigators, instructors, technicians, trainees, and students (Guide, pp 16-17)	X				
• Continuing education for program and research staff provided to ensure high quality care and reinforce training (Guide, pp 16-17)	X				
• Training is available prior to starting animal activity (Guide, p 17)	X				
• Training is documented (Guide, p 15)	X				
• Training program content includes: (Guide, p 17)					
○ Methods for reporting concerns (Guide, p 17)	X				
○ Humane practices of animal care (e.g., housing, husbandry, handling) *	X				
○ Humane practices of animal use (e.g., research procedures, use of anesthesia, and euthanasia (Guide, p 17) ^{xi}					
○ Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)	X				
○ Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)	X				
○ Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (Guide, p 20)	X				
○ Animal care and use legislation (Guide, p 17)	X				
○ IACUC function (Guide, p 17)	X				
○ Ethics of animal use and Three R's (Guide, p 17)	X				

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10. Occupational Health and Safety of Personnel		A*	M	S	C	NA
• Program is in place and is consistent with federal, state, and local regulations (<i>Guide, p 17</i>) [must]	X					
• Program covers <i>all</i> personnel who work in laboratory animal facilities (<i>Guide, p 18</i>)	X					
• Changing, washing, and showering facilities are available as appropriate (<i>Guide, p 19</i>)	X					
• Hazardous facilities are separated from other areas and identified as limited access (<i>Guide, p 19</i>)	X					
• Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (<i>Guide, p 20</i>)	X					
• Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (<i>Guide, p 20</i>)	X					
• Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (<i>Guide, p 21</i>)	X					
• Personal Protective Equipment for the work area is appropriate and available (<i>Guide, p 21</i>)	X					
• Program for medical evaluation and preventive medicine for personnel includes:						
○ Pre-employment evaluation including health history (<i>Guide, p 22</i>)	X					
○ Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (<i>Guide, p 22</i>)	X					
○ Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (<i>Guide, p 23</i>)	X					
○ Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (<i>Guide, p 23</i>)	X					
○ Promotes early diagnosis of allergies including preexisting conditions (<i>Guide, p 22</i>)	X					
○ Considers confidentiality and other legal factors as required by federal, state and local regulations (<i>Guide, p 22</i>) [must]	X					
○ If serum samples are collected, the purpose is consistent with federal and state laws (<i>Guide, p 22</i>) [must]	X					
• Waste anesthetic gases are scavenged (<i>Guide, p 21</i>)						X
• Hearing protection is provided in high noise areas (<i>Guide, p 22</i>)	X					
• Respiratory protection is available when performing airborne particulate work (<i>Guide, p 22</i>)	X					
11. Personnel Security NEW		A*	M	S	C	NA
• Preventive measures in place include pre-employment screening, and physical and IT security (<i>Guide, p 23</i>)	X					
12. Investigating & Reporting Animal Welfare Concerns NEW		A*	M	S	C	NA
• Methods for investigating and reporting animal welfare concerns are established (<i>Guide, p 23</i>) [must]	X					
• Reported concerns and corrective actions are documented (<i>Guide, p 24</i>)	X					
• Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (<i>Guide, p 24</i>)	X					
○ Includes multiple contacts (<i>Guide, p 24</i>)	X					
○ Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (<i>Guide, p 24</i>)	X					

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Veterinary Care

1. Clinical Care and Management <small>NEW</small>		A*	M	S	C	NA
• Veterinary program offers high quality of care and ethical standards (<i>Guide, p 105</i>) [must]	X					
• Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (<i>Guide, p 106</i>)	X					
• Veterinary care program is appropriate for program requirements (<i>Guide, pp 113-114</i>)	XX					
• Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (<i>Guide, p 114</i>)	X					
• Procedures to triage and prioritize incident reports are in place (<i>Guide, p 114</i>)	X					
• Procedures are in place to address:						
○ Problems with experiments to determine course of treatment in consultation with investigator(<i>Guide, p 114</i>)	X					
○ Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (<i>Guide, p 114</i>)	X					
○ Veterinary review and oversight of medical and animal use records (<i>Guide, p 115</i>)	X					
• Procedures established for timely reporting of animal injury, illness, or disease (<i>Guide, p 114</i>) [must]	X					
• Procedures established for veterinary assessment, treatment, or euthanasia (<i>Guide, p 114</i>) [must]	X					
• Veterinarian is authorized to treat, relieve pain, and/or euthanize (<i>Guide, p 114</i>) [must]	X					
2. Animal Procurement and Transportation/Preventive Medicine		A*	M	S	C	NA
• Procedures for lawful animal procurement are in place (<i>Guide, p 106</i>) [must]	X					
• Sufficient facilities and expertise are confirmed prior to procurement (<i>Guide, p 106</i>)	X					
• Procurement is linked to IACUC review and approval (<i>Guide, p 106</i>)	X					
• Population status of wildlife species is considered prior to procurement (<i>Guide, p 106</i>)						X
• Appropriate records are maintained on animal acquisition (<i>Guide, p 106</i>)	X					
• Animal vendors are evaluated to meet program needs and quality (<i>Guide, p 106</i>)	X					
• Breeding colonies are based on need and managed to minimize numbers (<i>Guide, p 107</i>)	X					
• Procedures for compliance with animal transportation regulations, including international requirements, are in place (<i>Guide, p 107</i>) [must]	X					
• Transportation is planned to ensure safety, security and minimize risk (<i>Guide, p 107</i>)	X					
• Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available (<i>Guide, pp 107- 108</i>)	X					
• Appropriate loading and unloading facilities are available (<i>Guide, p 109</i>)	X					
• Environment at receiving site is appropriate (<i>Guide, p 109</i>)	X					
• Policies in place on separation by species, source, and health status (<i>Guide, pp 109, 111-112</i>)	X					
• Procedures in place for quarantine to include zoonoses prevention (<i>Guide, p 110</i>)	X					
• Quarantined animals from different shipments are handled separately or physically separated (<i>Guide, p 110</i>)	X					
• Procedures in place for stabilization/acclimation (<i>Guide, pp 110-111</i>)	X					
• Policies in place for isolation of sick animals (<i>Guide, p 112</i>)	X					
• Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (<i>Guide, p 112</i>)	X					
• Diagnostic resources are available for preventive health program (<i>Guide, p 112</i>)	X					
3. Surgery		A*	M	S	C	NA
• NO SURGICAL PROTOCOLS (<i>Guide, p 115</i>)	X					

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4. Pain, Distress, Anesthesia and Analgesia		A*	M	S	C	NA
• Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training (<i>Guide, p 121</i>)	X					
• Selection of analgesics and anesthetics is based on professional veterinary judgment (<i>Guide, p 121</i>)						X
• Painful procedures are monitored to ensure appropriate analgesic management (<i>Guide, p 122</i>)						X
• Nonpharmacologic control of pain is considered as an element of postprocedural care (<i>Guide, p 122</i>)						X
• Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (<i>Guide, p 122</i>)						X
5. Euthanasia		A*	M	S	C	NA
• Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (<i>Guide, p 123</i>)	X					
• Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (<i>Guide, pp 123-124</i>)	X					
• Training is provided on appropriate methods for each species and considers psychological stress to personnel (<i>Guide, p 124</i>)	X					
• Procedures and training are in place to ensure death is confirmed (<i>Guide, p 124</i>)	X					
[must]						
6. Drug Storage and Control NEW		A*	M	S	C	NA
• Program complies with federal regulations for human and veterinary drugs(<i>Guide, p 115</i>) [must]	X					
• Drug records and storage procedures are reviewed during facility inspections (<i>Guide, p 115</i>)	X					
• Procedures are in place to ensure analgesics and anesthetics are used within expiration date (<i>Guide, p 122</i>) [must]	X					
• Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (<i>Guide, p 122</i>)	X					

* A = acceptable

M = minor deficiency

S = significant deficiency (is or may be a threat to animal health or safety)

C = change in program (PHS Policy [IV.A.1.a.-i.](#)) (include in semiannual report to IO and in annual report to OLAW)

NA = not applicable

Terrestrial Animal Housing and Support Areas

	A*	M	S	C	NA
• Location:					
o animal areas separate from personnel areas (<i>Guide, p 134</i>)	X				
o separation of species (<i>Guide, p 111</i>)	X				
o separation by disease status (<i>Guide, p 111</i>)	X				
o security and access control (<i>Guide, p 151</i>)	X				
• Construction:					
o corridors (<i>Guide, p 136</i>)	X				
o animal room doors (<i>Guide, p 137</i>)	X				
o exterior windows (<i>Guide, p 137</i>)	X				
o floors (<i>Guide, p 137</i>)	X				
o drainage (<i>Guide, p 138</i>)	X				

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○ walls and ceilings (<i>Guide, p 138</i>)	X				
○ heating ventilation and air conditioning (<i>Guide, p 139</i>)	X				
○ power and lighting (<i>Guide, p 141</i>)	X				
○ noise control (<i>Guide, p 142</i>)	X				
○ vibration control (<i>Guide, p 142</i>)	X				
○ environmental monitoring (<i>Guide, p 143</i>)	X				
• Room/Cage:					
○ temperature and humidity (<i>Guide, p 43</i>)	X				
○ ventilation and air quality (<i>Guide, p 45</i>)	X				
○ illumination (<i>Guide, p 47</i>)	X				
○ noise and vibration (<i>Guide, p 49</i>)	X				
• Primary Enclosure:					
○ space meets physiologic, behavioral ^{xii} , and social ^{xiii} needs (<i>Guide, pp 51, 55-63</i>)	X				
○ secure environment provided (<i>Guide, p 51</i>)	X				
○ durable, nontoxic materials in good repair and no risk of injury (<i>Guide, p 51</i>)	X				
○ flooring is safe and appropriate for species (<i>Guide, p 51</i>)	X				
○ adequate bedding and structures for resting, sleeping, breeding (<i>Guide, p 52</i>)	X				
○ objective assessments of housing and management are made (<i>Guide, p 52</i>)	X				
○ procedures for routine husbandry are documented (<i>Guide, p 52</i>)	X				
○ socially housed animals can escape or hide to avoid aggression (<i>Guide, p 55</i>)	X				
○ cage height provides adequate clearance (<i>Guide, p 56</i>)	X				
○ animals express natural postures, can turn around, access food and water, and rest away from urine and feces (<i>Guide, p 56</i>) [must]	X				
○ rationale ^{xiv} for <i>Guide</i> /USDA space exceptions approved by IACUC and based on performance indices (<i>Guide, p 56</i>)					X
○ agricultural animals are housed socially (<i>Guide, p 60</i>)					X
○ food troughs and water devices for agricultural animals allow access for all animals (<i>Guide, p 60</i>)					X
• Environmental Enrichment, Behavioral and Social Management:					
○ structures and resources promote species typical behavior (<i>Guide, pp 52-54</i>)	X				
○ novelty of enrichment is considered (<i>Guide, p 53</i>)	X				
○ species specific plans for housing including enrichment, behavior and activity are developed and reviewed regularly by IACUC, researchers and veterinarian (<i>Guide, pp 53, 58, 60, 63</i>)	X				
○ animal care personnel receive training to identify abnormal animal behaviors (<i>Guide, p 53</i>)	XX				
○ stability of pairs or groups is monitored for incompatibility (<i>Guide, p 64</i>)	X				
○ single housing is justified for social species (<i>Guide, p 64</i>)	X				
○ single housing is limited to the minimum period necessary (<i>Guide, p 64</i>)	X				
○ additional enrichment for single housed animals is provided (<i>Guide, p 64</i>)	X				
○ single housing is reviewed regularly by IACUC and veterinarian (<i>Guide, p 64</i>)	X				
○ habituation to routine procedures is part of enrichment program (<i>Guide, p 64</i>)	X				
• Sheltered or Outdoor Housing or Naturalistic Environments					
○ Not used	x				
• Food:					
○ feeding schedule and procedures including caloric intake management (<i>Guide, pp 65-67</i>)	x				
○ contamination prevention (<i>Guide, p 65</i>)	x				
○ vendor quality control (<i>Guide, p 66</i>)	x				
○ storage in sealed containers (<i>Guide, p 66</i>)	x				
○ expiration date labeling (<i>Guide, p 66</i>)	x				
○ vermin control (<i>Guide, p 66</i>)	x				
○ rotation of stocks (<i>Guide, p 66</i>)	x				

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• Water:					
○	ad libitum unless justified (<i>Guide</i> , pp 67-68)	x			
○	QC procedures (<i>Guide</i> , pp 67-68)	x			
• Bedding and Nesting Materials:					
○	species appropriate (<i>Guide</i> , pp 68-69)	x			
○	keeps animals dry (<i>Guide</i> , pp 68-69)	x			
○	QC procedures (<i>Guide</i> , pp 68-69)	x			
○	minimizes scientific variables (<i>Guide</i> , pp 68-69)	x			
• Sanitation:					
○	frequency of bedding/substrate change (<i>Guide</i> , p 70)	x			
○	cleaning and disinfection of microenvironment (<i>Guide</i> , pp 70-71)	x			
○	cleaning and disinfection of macroenvironment (<i>Guide</i> , p 72)	x			
○	assessing effectiveness (<i>Guide</i> , p 73)	x			
• Waste Disposal:					
○	procedures for collection (<i>Guide</i> , pp 73-74)	x			
○	procedures for storage and disposal (<i>Guide</i> , pp 73-74)	x			
○	hazardous wastes are rendered safe before removal from facility (<i>Guide</i> , pp 73-74) [must]	x			
○	animal carcasses (<i>Guide</i> , pp 73-74)	x			
• Pest Control:					
○	regularly scheduled (<i>Guide</i> , p 74)	x			
○	documented program including control of rodent pests and insecticide use (<i>Guide</i> , p 74)	x			
• Emergency, Weekend, and Holiday Animal Care:					
○	care provided by qualified personnel every day (<i>Guide</i> , p 74)	x			
○	provision for accessible contact information (<i>Guide</i> , p 74)	x			
○	monitoring of backup systems (<i>Guide</i> , p 143)	x			
○	veterinary care available after hours, weekends, and holidays (<i>Guide</i> , pp 74, 114) [must]	x			
○	a disaster plan that takes into account both personnel and animals (<i>Guide</i> , p 75)	x			
• Identification:					
○	cage/rack cards contain required information (<i>Guide</i> , p 75)	x			
○	genotype information included and standardized nomenclature used when applicable (<i>Guide</i> , p 75)	x			
• Recordkeeping:					
○	clinical records accessible and contain appropriate information (<i>Guide</i> , pp 75-76)	x			
○	records are provided when animals are transferred between institutions (<i>Guide</i> , p 75)				x
• Breeding Genetics and Nomenclature:					
○	appropriate genetic records, management and monitoring procedures (<i>Guide</i> , p 76)	x			
○	phenotypes that affect wellbeing are reported to IACUC and effectively managed (<i>Guide</i> , p 77)	x			
• Storage:					
○	adequate space for equipment, supplies, food, bedding and refuse (<i>Guide</i> , p 141)	x			
○	bedding in vermin-free area and protected from contamination (<i>Guide</i> , p 141)	x			
○	food in vermin-free, temperature and humidity controlled area and protected from contamination (<i>Guide</i> , p 141)	x			
○	refuse storage is separate (<i>Guide</i> , p 141)	x			
○	carcass and animal tissue storage is separate, refrigerated below 7°C and cleanable (<i>Guide</i> , p 141)	x			
• Personnel:					
○	adequate space for locker rooms, administration and training (<i>Guide</i> , p 135)	x			

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Aquatic Animal Housing and Support Areas NEW

	A*	M	S	C	NA
• Location:					
○ animal areas separate from personnel areas (<i>Guide, p 134</i>)	x				
○ separation of species (<i>Guide, p 111</i>)	x				
○ separation by disease status (<i>Guide, p 111</i>)	x				
○ security and access control (<i>Guide, p 151</i>)	x				
• Construction:					
○ corridors (<i>Guide, p 136</i>)	x				
○ animal room doors (<i>Guide, pp 137, 150</i>)	x				
○ exterior windows (<i>Guide, p 137</i>)	x				
○ floors (<i>Guide, pp 137, 150</i>)	x				
○ drainage (<i>Guide, pp 138, 150</i>)	x				
○ walls and ceilings (<i>Guide, pp 138, 150</i>)	x				
○ heating ventilation and air conditioning (<i>Guide, pp 139, 150-151</i>)	x				
○ power and lighting (<i>Guide, pp 141, 150</i>)	x				
○ noise control (<i>Guide, p 142</i>)	x				
○ vibration control (<i>Guide, p 142</i>)	x				
○ environmental monitoring (<i>Guide, p 143</i>)	x				
• Water Quality:					
○ standards for acceptable quality are established (<i>Guide, p 78</i>)	x				
○ chlorine, chloramines, chemical, and reactive bioproducts are removed or neutralized prior to use in aquatic systems (<i>Guide, pp 78, 86</i>) [must]	x				
• Life Support System:					
○ water source is based on appropriate controls and research requirements (<i>Guide, p 79</i>)	x				
○ biofilter is of sufficient size to process bioload (<i>Guide, p 80</i>) [must]	x				
• Temperature, Humidity and Ventilation/Illumination/Noise and Vibration:					
○ temperature and humidity (<i>Guide, pp 43, 80-81</i>)	x				
○ ventilation and air quality (<i>Guide, pp 45, 81</i>)	x				
○ illumination (<i>Guide, pp 47, 81</i>)	x				
○ noise and vibration (<i>Guide, pp 49, 81</i>)	x				
• Primary Enclosure:					
○ allows for normal physiological and behavioral needs (<i>Guide, p 82</i>)	x				
○ allows social interaction for social species (<i>Guide, p 82</i>)	x				
○ provides a balanced, stable environment (<i>Guide, p 82</i>)	x				
○ provides appropriate water quality and monitoring (<i>Guide, p 82</i>)	x				
○ allows access to food and waste removal (<i>Guide, p 82</i>)	x				
○ restricts escape and entrapment (<i>Guide, p 82</i>)	x				
○ allows undisturbed observation (<i>Guide, p 82</i>)	x				
○ constructed of nontoxic materials (<i>Guide, p 82</i>)	x				
○ prevents electrical hazards (<i>Guide, p 82</i>)	x				
○ space needs of species are evaluated by IACUC during program evaluations and facility inspections (<i>Guide, p 83</i>)	x				
• Environmental Enrichment, Social Housing, Behavioral and Social Management:					
○ enrichment elicits appropriate behaviors and is safe (<i>Guide, p 83</i>)	x				
○ semi-aquatic reptiles are provided terrestrial areas (<i>Guide, p 83</i>)	x				

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○ handling is kept to a minimum and appropriate techniques are in place at facility or protocol level (<i>Guide, p 84</i>)	x				
○ nets are cleaned, disinfected and managed to avoid contamination of systems (<i>Guide, p 84</i>)	x				
• Food:					
○ storage to prevent contamination, preserve nutrients and prevent pests (<i>Guide, p 84</i>)	x				
○ delivery ensures access to all , minimizing aggression and nutrient loss (<i>Guide, p 84</i>)	x				
○ storage times are based on manufacturer recommendations or accepted practice (<i>Guide, p 84</i>)	x				
○ a nutritionally complete diet is provided (<i>Guide, p 84</i>)	x				
• Substrate:					
○ amount, type and presentation of substrate is appropriate for the system and the species (<i>Guide, p 85</i>)	x				
• Sanitation, Cleaning and Disinfection					
○ frequency of tank/cage cleaning and disinfection is determined by water quality, permits adequate viewing and health monitoring (<i>Guide, p 86</i>)	x				
○ cleaning and disinfection of macroenvironment (<i>Guide, p 86</i>)	x				
• Waste Disposal:					
○ procedures for collection (<i>Guide, pp 73-74</i>)	x				
○ hazardous wastes are rendered safe before removal from facility (<i>Guide, pp 73-74</i>) [must]	x				
○ animal carcasses (<i>Guide, pp 73-74</i>)	x				
• Pest Control:					
○ regularly scheduled (<i>Guide, p 74</i>)	x				
○ documented program including control of pests and insecticide use (<i>Guide, p 74</i>)	x				
• Emergency, Weekend, and Holiday Animal Care:					
○ care provided by qualified personnel every day (<i>Guide, pp 74, 87</i>)	x				
○ provision for accessible contact information (<i>Guide, pp 74, 87</i>)	x				
○ emergency response plans in place to address major system failures (<i>Guide, 87</i>)	x				
○ veterinary care available after hours, weekends, and holidays (<i>Guide, pp 74, 114</i>) [must]	x				
• Identification:					
○ cage/tank cards contain required information (<i>Guide, pp 75, 87</i>)	x				
○ genotype information included and standardized nomenclature used when applicable (<i>Guide, pp 75, 87</i>)	x				
• Recordkeeping:					
○ water quality parameters and frequency of testing recorded (<i>Guide, p 88</i>)	x				
○ records kept on feeding, nonexpired food supplies, live cultures (<i>Guide, p 88</i>)	x				
• Storage:					
○ adequate space for equipment, supplies, food, substrate and refuse (<i>Guide, p 141</i>)	x				
○ substrate protected from contamination (<i>Guide, p 141</i>)	x				
○ food in vermin-free, temperature and humidity controlled area and protected from contamination (<i>Guide, p 141</i>)	x				
○ refuse storage is separate (<i>Guide, p 141</i>)	x				
○ carcass and animal tissue storage is separate, refrigerated below 7°C and cleanable (<i>Guide, p 141</i>)	x				
• Personnel:					
○ adequate space for locker rooms, administration and training (<i>Guide, p 135</i>)	x				

Cagewash

	A*	M	S	C	NA
• Construction and Operation:					
○ dedicated central area for sanitizing cages and equipment is provided (<i>Guide, p 143</i>)	x				
○ cage-washing equipment meets need (<i>Guide, p 143</i>)	x				
○ doors, windows, floors, drainage, walls, ceilings (<i>Guide, pp 136-138</i>)	x				
○ convenient to animal areas/waste disposal (<i>Guide, p 143</i>)	x				
○ ease of access (including door size) facilitates use (<i>Guide, p 143</i>)	x				
○ sufficient space for staging and maneuvering (<i>Guide, p 143</i>)	x				
○ safety precautions/clothing/equipment used for waste disposal/prewash/acid wash ((<i>Guide, p 143</i>)	x				
○ traffic flow clean to dirty with no contamination of clean equipment by dirty equipment and appropriate air pressurization (<i>Guide, p 143</i>)	x				
○ insulation and/or sound attenuation present as needed (<i>Guide, p 143</i>)	x				
○ utilities are appropriate (<i>Guide, p 143</i>)	x				
○ ventilation meets heat and humidity load (<i>Guide, p 143</i>)	x				
○ safety features (e.g., SOPs, warning signs, eyewash stations) are in use (<i>Guide, p 143</i>)	x				
○ functioning safety devices to prevent entrapment in washer/sterilizers (<i>Guide, p 143</i>)	x				
○ cage wash temperatures are monitored and records are available (<i>Guide, p 73</i>)	x				
○ appropriate clean cage storage (<i>Guide, p 141</i>)	x				

	A*	M	S	C	NA
• General Considerations:					
<ul style="list-style-type: none"> labs used to house animals only when scientifically required and limited to minimum period necessary (<i>Guide</i>, p 134) 					x
<ul style="list-style-type: none"> drug storage, control, and expiration dates (<i>Guide</i>, pp 115, 122) 	x				
<ul style="list-style-type: none"> sharps disposal (<i>Guide</i>, p 74) 	x				
<ul style="list-style-type: none"> anesthetic monitoring (<i>Guide</i>, p 120) 					x
<ul style="list-style-type: none"> scavenging of anesthetic gases (<i>Guide</i>, p 21) 					x
<ul style="list-style-type: none"> safety features (e.g., SOPs, safety signs, eyewash stations, secure gas cylinders) are in place (<i>Guide</i>, p 19) 	x				
<ul style="list-style-type: none"> carcass disposal (<i>Guide</i>, pp 73-74) 	x				
• Hazardous Agent Containment: NEW					
<ul style="list-style-type: none"> facility adheres to APHIS, USDA and CDC Select Agent Regulations and other federal, state and local regulations including security measures (<i>Guide</i>, p 148) [must] 	x				
• Behavioral Studies: NEW					
<ul style="list-style-type: none"> facility minimizes airborne transmission of noise and ground-borne transmission of vibration (<i>Guide</i>, p 149) 	x				
<ul style="list-style-type: none"> floor coverings reduce sound transmission (<i>Guide</i>, p 149) 					x
<ul style="list-style-type: none"> testing equipment allows for surface disinfection (<i>Guide</i>, p 150) 	x				
<ul style="list-style-type: none"> components that cannot be cleaned are not in ready contact with animals and kept covered when not in use (<i>Guide</i>, p 150) 					x
<ul style="list-style-type: none"> housing areas are contiguous with testing areas when appropriate (<i>Guide</i>, p 150) 	x				

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NOTES:

ⁱ Part 2 Subpart C - Research Facilities

- 2.31(b)(2) - "The Committee shall be composed of a Chairman and at least two additional members;... at least one shall not be affiliated in any way with the facility...such person will provide representation for general community interests in the proper care and treatment of animals." [PHS policy requires 5 members]

ⁱⁱ 2.32(c)(4) - "...No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject to any reprisal for reporting violations of any regulation or standards under the Act." [USDA requirement additional to PHS Policy]

ⁱⁱⁱ 2.31(d)(5) - "...shall conduct continuing reviews of activities...not less than annually." [PHS Policy requires a complete new review every 3 years utilizing all the criteria for initial review]

^{iv} 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

^v 2.36(b)(3) - "...exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the IACUC. A summary of all such exceptions must be attached to the facility's annual report." [Refers to USDA annual report]

^{vi} 2.31(c)(3) - "...Any failure to adhere to the plan and schedule that results in a significant deficiency remaining uncorrected shall be reported in writing within 15 business days by the IACUC, through the institutional official, to APHIS and any Federal agency funding that activity." [PHS Policy requires prompt reporting to OPRR of serious or continuing noncompliance with the PHS Policy or serious deviations from the provisions of the *Guide*]

^{vii} 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

^{viii} In addition to PHS requirements for IACUC review/application for funding, USDA regulations require:

2.31(d)(1)(ii) - "The principal investigator (PI) consider alternatives to procedures that cause more than momentary or slight pain or distress to the animals, and has provided a written narrative description of the methods and sources...used to determine that alternatives were not available."

2.31(d)(1)(iii) - "The PI has provided written assurance that the activities do not unnecessarily duplicate previous experiments."

2.31(d)(1)(iv) - "Procedures that may cause more than momentary or slight pain or distress to the animals will:

- involve in their planning, consultation with the attending veterinarian or his or her designee; [PHS Policy does not specify veterinary consultation]
- not include paralytics without the use of anesthesia;"

2.31(d)(1)(x) - "No animal will be used in more than one major operative procedure from which it is allowed to recover, unless justified for scientific reasons by the principal investigator, in writing..."

^{ix} 2.33(a)(1) - "In the case of a part-time attending veterinarian or consultant arrangements, the formal arrangements shall include a written program of veterinary care and regularly scheduled visits to the research facility." [USDA requirement additional]

^x 2.32(c) - "Humane methods of animal maintenance and experimentation, including the basic needs of each species, proper handling and care for the various species of animals used by the facility, proper pre-procedural and post-procedural care of animals, and aseptic surgical methods and procedures."

^{xi} 2.32(c) - additional specifications include:

- "proper use of anesthetics, analgesics, and tranquilizers for any species of animals used by the facility"
- "methods whereby deficiencies in animal care and treatment are reported, including deficiencies in animal care and treatment reported by any employee of the facility..."
- "utilization of services (e.g., National Agricultural Library, National Library of Medicine) to provide information on appropriate animal care and use, alternatives to the use of live animals in research, that could prevent unintended and unnecessary duplication of research involving animals, and regarding the intent and requirements of the Act." [USDA training specifications are more detailed than PHS Policy].

^{xii} Part 3 Subpart A 3.8 - "...research facilities must develop, document, and follow an appropriate plan to provide dogs with the opportunity for exercise. In addition the plan must be approved by the attending veterinarian. The plan must provide written standard procedures..."

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^{xiii} Part 3 Subpart D 3.81 - “...research facilities must develop, document, and follow an appropriate plan for environment enhancement adequate to promote the psychological well-being of nonhuman primates.”

^{xiv} Part 3 Subpart A 3.6(c)(1) - “Each dog housed in a primary enclosure must be provided with a minimum amount of floor space, calculated as follows:

(length of dog in inches + 6)² / 144 = required floor space in square feet).”

- Part 3 Subpart D 3.80 (b) - “Primary enclosures [for nonhuman primates] must meet the minimum space requirements provided in this subpart.”

- In situations where the USDA regulations and the *Guide* differ with respect to space requirements, the larger of the two must be followed.

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Animal & Aquatic Facility Semi-Annual Inspection

Date Inspected: 30 MAY 2019

IACUC Inspection Committee Members:

1. **Exemption 6**

2. Mike Wgke

Inspection sheet:

Room Number	Room Use	Room Inspected (Y/N)	Deficiencies From Notes	Corrective action needed in room	Date Corrected	Correction Verified (Initials)
732	Aquatic Room					
733	Aquatic Room	YES				
735	Aquatic Room	YES	Clean wall			
734/736	TBD	YES				
737	Aquatic Room	YES				
739	Aquatic Room	YES				
738	FREEZER	YES				
740/741	Water Cond.	YES				
742	Water Cond.	YES				
743	Aquatic Room	YES				
744	Aquatic Room	YES				
753/754	Autoclave Room	YES				
759	Animal Room	YES				
760	Cold Storage	YES				
761	Aerosolizer Room	YES				
762	Infectious Waste	YES				
763	Animal Room	YES				
764	Animal Room	YES				
765	Animal Room	YES				
766	Animal Room	YES				
767	Animal Room	YES				
768	Processing Lab	YES				
769	Bedding Storage	YES				
770	Animal Room	YES				
771	Animal Room	YES				
772	Animal Room	YES				
773	Laundry Room	YES				
774	Overflow Storage	YES	OK TOXO			
775	Research Lab	YES				
776/778	Cage Wash Clean	YES				

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778/780	Cage Wash	YES	RAT CAGES			
779/781	Terrestrial Room	YES				
782/784	Cage Wash Dirty	YES				
783	Chemistry Lab	YES				
785	Lab Room	YES				
786	Meeting Room	YES				
787	Office Room	YES				
789	Analysis Lab	YES				
792	Aquatic Invertebrate	YES				
790	Sentinel Lab	YES				
793	Necropsy	YES				
794	Necropsy	YES				
795	UV Light Room	YES				

General Facility Inspection Issues

Mammalian Housing

	YES	NO	COMMENTS
Are cages clean and in good repair?	/		
Do cage cards accurately reflect cage occupancy?	/		
Do animals appear to have fresh food and water?	/		
Is the number of animals per cage within recommended limits? (Mice: 5/cage for GM-500)	/		
Is the number of cages per room reasonable?	/		

Aquatic Tanks

	YES	NO	COMMENTS
Are tanks clean and in good repair?	/		
Are all tanks marked as to species, occupancy and age? Are there no more than 5% dead?	/		
Does the tank water appear clean and fresh?	/		
Is water flowing or aeration present?	/		
Is the biomass to water ratio reasonable?	/		

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Is organism color and behavior normal? Unusual behavior and color is often due to treatments.	<input checked="" type="checkbox"/>		
--	-------------------------------------	--	--

Room Environment

YES NO COMMENTS

Do room logs indicate that temperature and humidity are held within recommended range? (Mammals 64-79F, 30-70% humidity)	<input checked="" type="checkbox"/>		
Does the room ventilation adequate (i.e., no excessive odors)?	<input checked="" type="checkbox"/>		
Are all rooms illuminated adequately?	<input checked="" type="checkbox"/>		
Is the hall lighting adequate?	<input checked="" type="checkbox"/>		

Physical Plant

YES NO

COMMENTS

Are any areas of the facility in need of repair or painting?		<input checked="" type="checkbox"/>	
Do the water conditioning and water holding rooms seem in good working order?	<input checked="" type="checkbox"/>		
Does the cage washer appear to be operational?	<input checked="" type="checkbox"/>		
Do traps and drains appear to be in good working order?	<input checked="" type="checkbox"/>		
Are the hall and animal room floors and walls in good repair?	<input checked="" type="checkbox"/>		
Are doors, rooms, and benches properly labeled with hazard and other warnings?	<input checked="" type="checkbox"/>		
Is the security system operational?	<input checked="" type="checkbox"/>		

Sanitation

YES NO COMMENTS

Are the hallways clean and free of trash?	<input checked="" type="checkbox"/>		
Are the animal room floors clean and free of trash?	<input checked="" type="checkbox"/>		

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Is animal bedding and cage materials area/room clean and neat?			
Is food storage room neat and orderly and the food on shelving?			
Is there any evidence of vermin?			

Facility Staffing

YES NO COMMENTS

Does the facility appear to be adequately staffed?			
Do you believe that the communication between veterinarian and staff are adequate?			

Checklist of Items to Monitor during an Aquatic Facility Inspection (December, 2006)

When inspecting the AWBERC 7th Floor Aquatic Facility, the following items should be monitored to insure the facility staff maintaining the facility at an acceptable level. Basic items, such as cleanliness of the floors, walls, benchtops, etc. are the same as what would be expected on the mammalian side. The same is true for insects in the light fixtures and insect traps. The following items are unique to the aquatic facility:

Dead fish.

Due to the large number of fish maintained in the AWBERC Aquatic Facility, it is not unusual to find dead fish in any of the various fish tanks. These fish are removed during the AM feeding procedure, as well as throughout the day when found. Any fish that is in tank, dead and showing signs of decomposition should be noted. If it is in that state, someone missed it when checking.

Unusual Fish Behavior

On occasion, problems with the FHM culture can be spotted based on unusual behavior in the fish. This will involve erratic swimming behavior, such as spinning, lethargy or swimming separately from the rest of the mass of fish. Resting on the bottom is not necessarily unusual. It is important to not mistake spawning behavior for erratic swimming. If a striped fish is seen swimming against the side of the tank with a fish that has no stripes, this is most likely a male and female fish involved in mating behavior. The zebrafish do not go through the mating behavior the FHM do. Otherwise, the behavior is similar between the 2 species. The appearance

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of curved gill covers is due to a genetic defect and not to any disease factors. We try to remove these fish as they occur.

Fish color

FHM color should range from dark gray to light tan. Smaller fish are lighter in color. Fish that are black, or pale gray/white should be noted, as these are unusual colors. Zebra Fish color is gray, with some yellow on the bellies of the males.

Tank Cleanliness

The tanks should have limited amounts of debris on the bottom. This material is siphoned from the tanks twice each week, more frequently if required. If large deposits of excess food or fecal material are seen, they should be noted.

Water flow and Aeration

Unless otherwise noted on the tank, all FHM tanks should have water flowing into them. This is accomplished through small diameter tubes that are attached to the water system and deliver the water to the tanks. ZebraFish tanks (rooms 743 and 792) have no flow. ALL tanks must have aeration. If a tank lacks an airline tube, or if the airline tube is not providing air, it should be noted.

Food Cultures

Cultures of both brine shrimp (room 735) and rotifers (room 743) are maintained for use in feeding larval age animals. The brine shrimp are maintained in inverted 2L soda bottles and have color that ranges from brown to bright orange. These cultures are aerated until harvested. If they are not being aerated and it later in the day, this should be noted. The rotifers are in 4 glass aquaria in room 743. The newer cultures that are maturing are green. The older cultures are a brownish-green. Any color outside those ranges should be noted.

General Comments:

Listing of individual comments by inspection team:

- 1) TOXO - ITEMS can be expressed
- 2) Clean wall behind Brine Shrimp 735
- 3) Some RAT cages getting cloudy

Signed: _____

Exemption 6

;

Member, AWBERC
IACUC

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Date

Signed: _____;

Member, AWBERC
IACUC
Date

Please forward to Mike Ware, IACUC chair

Semiannual Program Review Checklist

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Institutional Policies and Responsibilities: Cincinnati

Date: 12/4/2019

1. Animal Care and Use Program NEW		A*	M	S	C	NA
• Responsibility for animal well-being is assumed by all members of the program (<i>Guide, p 1</i>) [must]	X					
• IO has authority to allocate needed resources (<i>Guide, p 13</i>)	X					
• Resources necessary to manage program of veterinary care are provided (<i>Guide, p 14</i>) [must]	X					
• Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the <i>Guide</i> (<i>Guide, pp 11, 15</i>)	X					
• Program needs are regularly communicated to IO by AV and/or IACUC (<i>Guide, p 13</i>)	X					
• Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (<i>Guide, p 14</i>) [must]	X					
• Inter-institutional collaborations are described in formal written agreements (<i>Guide, p 15</i>)						X
• Written agreements address responsibilities, animal ownership, and IACUC oversight (<i>Guide, p 15</i>)						X
2. Disaster Planning and Emergency Preparedness NEW		A*	M	S	C	NA
• Disaster plans for each facility to include satellite locations are in place (<i>Guide, p 35, p 75</i>) [must]	X					
• Plans include provisions for euthanasia (<i>Guide, p 35</i>) [must]	X					
• Plans include triage plans to meet institutional and investigators' needs (<i>Guide, p 35</i>)	X					
• Plans define actions to prevent animal injury or death due to HVAC or other failures (<i>Guide, p 35</i>)	X					
• Plans describe preservation of critical or irreplaceable animals (<i>Guide, p 35</i>)	X					
• Plans include essential personnel and their training (<i>Guide, p 35</i>)	X					
• Animal facility plans are approved by the institution and incorporated into overall response plan (<i>Guide, p 35</i>)	X					
• Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (<i>Guide, p 35</i>)	X					
3. IACUC NEW		A*	M	S	C	NA
• Meets as necessary to fulfill responsibilities (<i>Guide, p 25</i>) [must]	X					
• IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (<i>Guide, p 26</i>) [must]	X					
• Continuing IACUC oversight after initial protocol approval is in place (<i>Guide, p 33</i>)	X					
• IACUC evaluates the effectiveness of training programs (<i>Guide, p 15</i>)	X					
4. IACUC Protocol Review - Special Considerations		A*	M	S	C	NA
• Humane endpoints are established for studies that involve tumor models, infectious diseases, vaccine challenge, pain modeling, trauma, production of monoclonal antibodies, assessment of toxicologic effects, organ or system failure, and models of cardiovascular shock (<i>Guide, p 27</i>)	X					
• For pilot studies, a system to communicate with the IACUC is in place (<i>Guide, p 28</i>)						X
• For genetically modified animals, enhanced monitoring and reporting is in place (<i>Guide, p 28</i>)						X
• Restraint devices NOT use in protocols (<i>Guide, p 29</i>) [must]	X					
• Surgical Procedures are not used in protocols (<i>Guide, p 30</i>)	X					
• No protocols with food/fluid restriction for >12 hours (<i>Guide, p 31</i>)	X					
• written records are maintained for food/fluid restricted animals (<i>Guide, p 31</i>)	X					

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• Pharmaceutical grade chemicals are used, when available, for animal-related procedures (<i>Guide</i> , p 31)	X				
• Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC (<i>Guide</i> , p 31)					X
• Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (<i>Guide</i> , p 32)	X				
• Disposition plans are considered for species removed from the wild (<i>Guide</i> , p 32)					X
• Toe-clipping only used when no alternative, performed aseptically and with pain relief (<i>Guide</i> , p 75)					X

5. IACUC Membership and Functions A* M S C NA

• IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, IV.A.3.)	X				
• Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (<i>Guide</i> , p 24) ⁱ	X				
• IACUC authority and resources for oversight and evaluation of institution's program are provided (<i>Guide</i> , p 14)	X				
• IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, IV.B.)	X				
• Conducts semiannual inspections of institutional animal facilities (PHS Policy, IV.B.)	X				
• IACUC organizationally reports to the Institutional Official (PHS Policy, IV.A.1.b.)	X				
• Methods for reporting and investigating animal welfare concerns are in place (<i>Guide</i> , p 23) [must]	X				
• Reviews and investigates concerns about animal care and use at institution ⁱⁱ (PHS Policy, IV.B.)					X
• Procedures are in place for review, approval, and suspension of animal activities ⁱⁱⁱ (PHS Policy, IV.B.)	X				
• Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, IV.B.)	X				
• Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (<i>Guide</i> , p 27-32)					X

6. IACUC Training NEW A* M S C NA

• All IACUC members should receive:					
◦ Formal orientation to institution's program (<i>Guide</i> , p 17)	X				
◦ Training on legislation, regulations, guidelines, and policies (<i>Guide</i> , p 17)	X				
◦ Training on how to inspect facilities and labs where animal use or housing occurs (<i>Guide</i> , p 17)	X				
◦ Training on how to review protocols as well as evaluate the program (<i>Guide</i> , p 17)	X				
◦ Ongoing training/education (<i>Guide</i> , p 17)	X				

7. IACUC Records and Reporting Requirements^{iv} A* M S C NA

• Semiannual report to the IO (PHS Policy, IV.B.)					
◦ Submitted to IO every 6 months	X				
◦ Compiles program review and facility inspection(s) results (includes all program and facility deficiencies)	X				
◦ Includes minority IACUC views	X				
◦ Describes IACUC-approved departures from the <i>Guide</i> or PHS Policy and the reasons for each departure ^v	X				
◦ Distinguishes significant from minor deficiencies	X				
◦ Includes a plan and schedule for correction for each deficiency identified ^{vi}	X				
• Reports to U.S. Department of Agriculture (USDA) or Federal funding agency ^{vii}					
◦ Annual report to USDA contains required information including all exceptions/exemptions	X				

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○ Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards					X
○ Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies					X
○ Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency					X
• Records (PHS Policy, IV.E.)					
○ IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years	X				
○ Records of IACUC reviews of animal activities include all required information ^{viii}	X				
○ Records of IACUC reviews are maintained for 3 years after the completion of the study	X				

8. Veterinary Care (See also next section - Veterinary Care)

	A*	M	S	C	NA
• An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care ^x	X				
• Veterinary access to all animals is provided (Guide, p 14) [must]	X				
• Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (Guide, p 14) [must]	X				
• Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (Guide, p 5) [must]	X				
• Veterinarian provides consultation when interventional control is not possible (Guide, p 5) [must]	X				
• If part time /consulting veterinarian, visits meet programmatic needs (Guide, p 14)	X				
• Regular communication occurs between veterinarian and IACUC (Guide, p 14)	X				
• Veterinarian(s) have experience and training in species used (Guide, p 15) [must]	X				
• Veterinarian(s) have experience in facility administration/management (Guide, p 15)	X				

9. Personnel Qualifications and Training

	A*	M	S	C	NA
• All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [must]					
○ Veterinary/other professional staff (Guide, p 15-16)	X				
○ IACUC members (Guide, p 17)	X				
○ Animal care personnel (Guide, p 16)	X				
○ Research investigators, instructors, technicians, trainees, and students (Guide, pp 16-17)	X				
• Continuing education for program and research staff provided to ensure high quality care and reinforce training (Guide, pp 16-17)	X				
• Training is available prior to starting animal activity (Guide, p 17)	X				
• Training is documented (Guide, p 15)	X				
• Training program content includes: (Guide, p 17)					
○ Methods for reporting concerns (Guide, p 17)	X				
○ Humane practices of animal care (e.g., housing, husbandry, handling) *	X				
○ Humane practices of animal use (e.g., research procedures, use of anesthesia, and euthanasia (Guide, p 17) ^{xi}	X				
○ Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)	X				
○ Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)	X				
○ Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (Guide, p 20)	X				
○ Animal care and use legislation (Guide, p 17)	X				
○ IACUC function (Guide, p 17)	X				

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o Ethics of animal use and Three R's (<i>Guide, p 17</i>)	X				
10. Occupational Health and Safety of Personnel	A*	M	S	C	NA
• Program is in place and is consistent with federal, state, and local regulations (<i>Guide, p 17</i>) [must]	X				
• Program covers <i>all</i> personnel who work in laboratory animal facilities (<i>Guide, p 18</i>)	X				
• Changing, washing, and showering facilities are available as appropriate (<i>Guide, p 19</i>)	X				
• Hazardous facilities are separated from other areas and identified as limited access (<i>Guide, p 19</i>)	X				
• Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (<i>Guide, p 20</i>)	X				
• Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (<i>Guide, p 20</i>)	X				
• Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (<i>Guide, p 21</i>)	X				
• Personal Protective Equipment for the work area is appropriate and available (<i>Guide, p 21</i>)	X				
• Program for medical evaluation and preventive medicine for personnel includes:					
o Pre-employment evaluation including health history (<i>Guide, p 22</i>)	X				
o Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (<i>Guide, p 22</i>)	X				
o Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (<i>Guide, p 23</i>)	X				
o Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (<i>Guide, p 23</i>)	X				
o Promotes early diagnosis of allergies including preexisting conditions (<i>Guide, p 22</i>)	X				
o Considers confidentiality and other legal factors as required by federal, state and local regulations (<i>Guide, p 22</i>) [must]	X				
o If serum samples are collected, the purpose is consistent with federal and state laws (<i>Guide, p 22</i>) [must]	X				
• Waste anesthetic gases are scavenged (<i>Guide, p 21</i>)					X
• Hearing protection is provided in high noise areas (<i>Guide, p 22</i>)	X				
• Respiratory protection is available when performing airborne particulate work (<i>Guide, p 22</i>)	X				
11. Personnel Security NEW	A*	M	S	C	NA
• Preventive measures in place include pre-employment screening, and physical and IT security (<i>Guide, p 23</i>)	X				
12. Investigating & Reporting Animal Welfare Concerns NEW	A*	M	S	C	NA
• Methods for investigating and reporting animal welfare concerns are established (<i>Guide, p 23</i>) [must]	X				
• Reported concerns and corrective actions are documented (<i>Guide, p 24</i>)					X
• Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (<i>Guide, p 24</i>)	X				
o Includes multiple contacts (<i>Guide, p 24</i>)	X				
o Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (<i>Guide, p 24</i>)	X				

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Veterinary Care

1. Clinical Care and Management <small>NEW</small>		A*	M	S	C	NA
• Veterinary program offers high quality of care and ethical standards (<i>Guide, p 105</i>) [must]	X					
• Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (<i>Guide, p 106</i>)	X					
• Veterinary care program is appropriate for program requirements (<i>Guide, pp 113-114</i>)	X					
• Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (<i>Guide, p 114</i>)	X					
• Procedures to triage and prioritize incident reports are in place (<i>Guide, p 114</i>)	X					
• Procedures are in place to address:						
◦ Problems with experiments to determine course of treatment in consultation with investigator(<i>Guide, p 114</i>)	X					
◦ Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (<i>Guide, p 114</i>)	X					
◦ Veterinary review and oversight of medical and animal use records (<i>Guide, p 115</i>)	X					
• Procedures established for timely reporting of animal injury, illness, or disease (<i>Guide, p 114</i>) [must]	X					
• Procedures established for veterinary assessment, treatment, or euthanasia (<i>Guide, p 114</i>) [must]	X					
• Veterinarian is authorized to treat, relieve pain, and/or euthanize (<i>Guide, p 114</i>) [must]	X					
2. Animal Procurement and Transportation/Preventive Medicine		A*	M	S	C	NA
• Procedures for lawful animal procurement are in place (<i>Guide, p 106</i>) [must]	X					
• Sufficient facilities and expertise are confirmed prior to procurement (<i>Guide, p 106</i>)	X					
• Procurement is linked to IACUC review and approval (<i>Guide, p 106</i>)	X					
• Population status of wildlife species is considered prior to procurement (<i>Guide, p 106</i>)						X
• Appropriate records are maintained on animal acquisition (<i>Guide, p 106</i>)	X					
• Animal vendors are evaluated to meet program needs and quality (<i>Guide, p 106</i>)	X					
• Breeding colonies are based on need and managed to minimize numbers (<i>Guide, p 107</i>)	X					
• Procedures for compliance with animal transportation regulations, including international requirements, are in place (<i>Guide, p 107</i>) [must]	X					
• Transportation is planned to ensure safety, security and minimize risk (<i>Guide, p 107</i>)	X					
• Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available (<i>Guide, pp 107- 108</i>)	X					
• Appropriate loading and unloading facilities are available (<i>Guide, p 109</i>)	X					
• Environment at receiving site is appropriate (<i>Guide, p 109</i>)	X					
• Policies in place on separation by species, source, and health status (<i>Guide, pp 109, 111-112</i>)	X					
• Procedures in place for quarantine to include zoonoses prevention (<i>Guide, p 110</i>)	X					
• Quarantined animals from different shipments are handled separately or physically separated (<i>Guide, p 110</i>)	X					
• Procedures in place for stabilization/acclimation (<i>Guide, pp 110-111</i>)	X					
• Policies in place for isolation of sick animals (<i>Guide, p 112</i>)	X					
• Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (<i>Guide, p 112</i>)	X					
• Diagnostic resources are available for preventive health program (<i>Guide, p 112</i>)	X					
3. Surgery		A*	M	S	C	NA
• NO SURGICAL PROTOCOLS (<i>Guide, p 115</i>)	X					

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4. Pain, Distress, Anesthesia and Analgesia						A*	M	S	C	NA
• Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training (<i>Guide, p 121</i>)						X				
• Selection of analgesics and anesthetics is based on professional veterinary judgment (<i>Guide, p 121</i>)										X
• Painful procedures are monitored to ensure appropriate analgesic management (<i>Guide, p 122</i>)										X
• Nonpharmacologic control of pain is considered as an element of postprocedural care (<i>Guide, p 122</i>)										X
• Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (<i>Guide, p 122</i>)										X
5. Euthanasia						A*	M	S	C	NA
• Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (<i>Guide, p 123</i>)						X				
• Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (<i>Guide, pp 123-124</i>)						X				
• Training is provided on appropriate methods for each species and considers psychological stress to personnel (<i>Guide, p 124</i>)						X				
• Procedures and training are in place to ensure death is confirmed (<i>Guide, p 124</i>) [must]						X				
6. Drug Storage and Control NEW						A*	M	S	C	NA
• Program complies with federal regulations for human and veterinary drugs(<i>Guide, p 115</i>) [must]						X				
• Drug records and storage procedures are reviewed during facility inspections (<i>Guide, p 115</i>)						X				
• Procedures are in place to ensure analgesics and anesthetics are used within expiration date (<i>Guide, p 122</i>) [must]						X				
• Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (<i>Guide, p 122</i>)						X				

* A = acceptable

M = minor deficiency

S = significant deficiency (is or may be a threat to animal health or safety)

C = change in program (PHS Policy [IV.A.1.a.-i.](#)) (include in semiannual report to IO and in annual report to OLAW)

NA = not applicable

Terrestrial Animal Housing and Support Areas

						A*	M	S	C	NA
• Location:										
o animal areas separate from personnel areas (<i>Guide, p 134</i>)						X				
o separation of species (<i>Guide, p 111</i>)						X				
o separation by disease status (<i>Guide, p 111</i>)						X				
o security and access control (<i>Guide, p 151</i>)						X				
• Construction:										
o corridors (<i>Guide, p 136</i>)						X				
o animal room doors (<i>Guide, p 137</i>)						X				
o exterior windows (<i>Guide, p 137</i>)						X				
o floors (<i>Guide, p 137</i>)						X				
o drainage (<i>Guide, p 138</i>)						X				

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○ walls and ceilings (<i>Guide, p 138</i>)	X				
○ heating ventilation and air conditioning (<i>Guide, p 139</i>)	X				
○ power and lighting (<i>Guide, p 141</i>)	X				
○ noise control (<i>Guide, p 142</i>)	X				
○ vibration control (<i>Guide, p 142</i>)	X				
○ environmental monitoring (<i>Guide, p 143</i>)	X				
• Room/Cage:					
○ temperature and humidity (<i>Guide, p 43</i>)	X				
○ ventilation and air quality (<i>Guide, p 45</i>)	X				
○ illumination (<i>Guide, p 47</i>)	X				
○ noise and vibration (<i>Guide, p 49</i>)	X				
• Primary Enclosure:					
○ space meets physiologic, behavioral ^{xii} , and social ^{xiii} needs (<i>Guide, pp 51, 55-63</i>)	X				
○ secure environment provided (<i>Guide, p 51</i>)	X				
○ durable, nontoxic materials in good repair and no risk of injury (<i>Guide, p 51</i>)	X				
○ flooring is safe and appropriate for species (<i>Guide, p 51</i>)	X				
○ adequate bedding and structures for resting, sleeping, breeding (<i>Guide, p 52</i>)	X				
○ objective assessments of housing and management are made (<i>Guide, p 52</i>)	X				
○ procedures for routine husbandry are documented (<i>Guide, p 52</i>)	X				
○ socially housed animals can escape or hide to avoid aggression (<i>Guide, p 55</i>)	X				
○ cage height provides adequate clearance (<i>Guide, p 56</i>)	X				
○ animals express natural postures, can turn around, access food and water, and rest away from urine and feces (<i>Guide, p 56</i>) [must]	X				
○ rationale ^{xiv} for <i>Guide</i> /USDA space exceptions approved by IACUC and based on performance indices (<i>Guide, p 56</i>)					X
○ agricultural animals are housed socially (<i>Guide, p 60</i>)					X
○ food troughs and water devices for agricultural animals allow access for all animals (<i>Guide, p 60</i>)					X
• Environmental Enrichment, Behavioral and Social Management:					
○ structures and resources promote species typical behavior (<i>Guide, pp 52-54</i>)	X				
○ novelty of enrichment is considered (<i>Guide, p 53</i>)	X				
○ species specific plans for housing including enrichment, behavior and activity are developed and reviewed regularly by IACUC, researchers and veterinarian (<i>Guide, pp 53, 58, 60, 63</i>)	X				
○ animal care personnel receive training to identify abnormal animal behaviors (<i>Guide, p 53</i>)	X				
○ stability of pairs or groups is monitored for incompatibility (<i>Guide, p 64</i>)	X				
○ single housing is justified for social species (<i>Guide, p 64</i>)	X				
○ single housing is limited to the minimum period necessary (<i>Guide, p 64</i>)	X				
○ additional enrichment for single housed animals is provided (<i>Guide, p 64</i>)	X				
○ single housing is reviewed regularly by IACUC and veterinarian (<i>Guide, p 64</i>)	X				
○ habituation to routine procedures is part of enrichment program (<i>Guide, p 64</i>)	X				
• Sheltered or Outdoor Housing or Naturalistic Environments					
○ Not used					X
• Food:					
○ feeding schedule and procedures including caloric intake management (<i>Guide, pp 65-67</i>)	X				
○ contamination prevention (<i>Guide, p 65</i>)	X				
○ vendor quality control (<i>Guide, p 66</i>)	X				
○ storage in sealed containers (<i>Guide, p 66</i>)	X				
○ expiration date labeling (<i>Guide, p 66</i>)	X				
○ vermin control (<i>Guide, p 66</i>)	X				
○ rotation of stocks (<i>Guide, p 66</i>)	X				

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• Water:					
○	ad libitum unless justified (<i>Guide</i> , pp 67-68)	x			
○	QC procedures (<i>Guide</i> , pp 67-68)	x			
• Bedding and Nesting Materials:					
○	species appropriate (<i>Guide</i> , pp 68-69)	x			
○	keeps animals dry (<i>Guide</i> , pp 68-69)	x			
○	QC procedures (<i>Guide</i> , pp 68-69)	x			
○	minimizes scientific variables (<i>Guide</i> , pp 68-69)	x			
• Sanitation:					
○	frequency of bedding/substrate change (<i>Guide</i> , p 70)	x			
○	cleaning and disinfection of microenvironment (<i>Guide</i> , pp 70-71)	x			
○	cleaning and disinfection of macroenvironment (<i>Guide</i> , p 72)	x			
○	assessing effectiveness (<i>Guide</i> , p 73)	x			
• Waste Disposal:					
○	procedures for collection (<i>Guide</i> , pp 73-74)	x			
○	procedures for storage and disposal (<i>Guide</i> , pp 73-74)	x			
○	hazardous wastes are rendered safe before removal from facility (<i>Guide</i> , pp 73-74) [must]	x			
○	animal carcasses (<i>Guide</i> , pp 73-74)	x			
• Pest Control:					
○	regularly scheduled (<i>Guide</i> , p 74)	x			
○	documented program including control of rodent pests and insecticide use (<i>Guide</i> , p 74)	x			
• Emergency, Weekend, and Holiday Animal Care:					
○	care provided by qualified personnel every day (<i>Guide</i> , p 74)	x			
○	provision for accessible contact information (<i>Guide</i> , p 74)	x			
○	monitoring of backup systems (<i>Guide</i> , p 143)	x			
○	veterinary care available after hours, weekends, and holidays (<i>Guide</i> , pp 74, 114) [must]	x			
○	a disaster plan that takes into account both personnel and animals (<i>Guide</i> , p 75)	x			
• Identification:					
○	cage/rack cards contain required information (<i>Guide</i> , p 75)	x			
○	genotype information included and standardized nomenclature used when applicable (<i>Guide</i> , p 75)	x			
• Recordkeeping:					
○	clinical records accessible and contain appropriate information (<i>Guide</i> , pp 75-76)	x			
○	records are provided when animals are transferred between institutions (<i>Guide</i> , p 75)				x
• Breeding Genetics and Nomenclature:					
○	appropriate genetic records, management and monitoring procedures (<i>Guide</i> , p 76)				x
○	phenotypes that affect wellbeing are reported to IACUC and effectively managed (<i>Guide</i> , p 77)				x
• Storage:					
○	adequate space for equipment, supplies, food, bedding and refuse (<i>Guide</i> , p 141)	x			
○	bedding in vermin-free area and protected from contamination (<i>Guide</i> , p 141)	x			
○	food in vermin-free, temperature and humidity controlled area and protected from contamination (<i>Guide</i> , p 141)	x			
○	refuse storage is separate (<i>Guide</i> , p 141)	x			
○	carcass and animal tissue storage is separate, refrigerated below 7°C and cleanable (<i>Guide</i> , p 141)	x			
• Personnel:					
○	adequate space for locker rooms, administration and training (<i>Guide</i> , p 135)	x			

Aquatic Animal Housing and Support Areas

	A*	M	S	C	NA
<ul style="list-style-type: none"> Location: <ul style="list-style-type: none"> animal areas separate from personnel areas (<i>Guide</i>, p 134) separation of species (<i>Guide</i>, p 111) separation by disease status (<i>Guide</i>, p 111) security and access control (<i>Guide</i>, p 151) 	X				
<ul style="list-style-type: none"> Construction: <ul style="list-style-type: none"> corridors (<i>Guide</i>, p 136) animal room doors (<i>Guide</i>, pp 137, 150) exterior windows (<i>Guide</i>, p 137) floors (<i>Guide</i>, pp 137, 150) drainage (<i>Guide</i>, pp 138, 150) walls and ceilings (<i>Guide</i>, pp 138, 150) heating ventilation and air conditioning (<i>Guide</i>, pp 139, 150-151) power and lighting (<i>Guide</i>, pp 141, 150) noise control (<i>Guide</i>, p 142) vibration control (<i>Guide</i>, p 142) environmental monitoring (<i>Guide</i>, p 143) 	X				
<ul style="list-style-type: none"> Water Quality: <ul style="list-style-type: none"> standards for acceptable quality are established (<i>Guide</i>, p 78) chlorine, chloramines, chemical, and reactive bioproducts are removed or neutralized prior to use in aquatic systems (<i>Guide</i>, pp 78, 86) [must] 	X				
<ul style="list-style-type: none"> Life Support System: <ul style="list-style-type: none"> water source is based on appropriate controls and research requirements (<i>Guide</i>, p 79) biofilter is of sufficient size to process bioload (<i>Guide</i>, p 80) [must] 	X				
<ul style="list-style-type: none"> Temperature, Humidity and Ventilation/Illumination/Noise and Vibration: <ul style="list-style-type: none"> temperature and humidity (<i>Guide</i>, pp 43, 80-81) ventilation and air quality (<i>Guide</i>, pp 45, 81) illumination (<i>Guide</i>, pp 47, 81) noise and vibration (<i>Guide</i>, pp 49, 81) 	X				
<ul style="list-style-type: none"> Primary Enclosure: <ul style="list-style-type: none"> allows for normal physiological and behavioral needs (<i>Guide</i>, p 82) allows social interaction for social species (<i>Guide</i>, p 82) provides a balanced, stable environment (<i>Guide</i>, p 82) provides appropriate water quality and monitoring (<i>Guide</i>, p 82) allows access to food and waste removal (<i>Guide</i>, p 82) restricts escape and entrapment (<i>Guide</i>, p 82) allows undisturbed observation (<i>Guide</i>, p 82) constructed of nontoxic materials (<i>Guide</i>, p 82) prevents electrical hazards (<i>Guide</i>, p 82) space needs of species are evaluated by IACUC during program evaluations and facility inspections (<i>Guide</i>, p 83) 	X				
<ul style="list-style-type: none"> Environmental Enrichment, Social Housing, Behavioral and Social Management: <ul style="list-style-type: none"> enrichment elicits appropriate behaviors and is safe (<i>Guide</i>, p 83) semi-aquatic reptiles are provided terrestrial areas (<i>Guide</i>, p 83) 	X				

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○ handling is kept to a minimum and appropriate techniques are in place at facility or protocol level (<i>Guide, p 84</i>)	x				
○ nets are cleaned, disinfected and managed to avoid contamination of systems (<i>Guide, p 84</i>)	x				
• Food:					
○ storage to prevent contamination, preserve nutrients and prevent pests (<i>Guide, p 84</i>)	x				
○ delivery ensures access to all , minimizing aggression and nutrient loss (<i>Guide, p 84</i>)	x				
○ storage times are based on manufacturer recommendations or accepted practice (<i>Guide, p 84</i>)	x				
○ a nutritionally complete diet is provided (<i>Guide, p 84</i>)	x				
• Substrate:					
○ amount, type and presentation of substrate is appropriate for the system and the species (<i>Guide, p 85</i>)	x				
• Sanitation, Cleaning and Disinfection					
○ frequency of tank/cage cleaning and disinfection is determined by water quality, permits adequate viewing and health monitoring (<i>Guide, p 86</i>)	x				
○ cleaning and disinfection of macroenvironment (<i>Guide, p 86</i>)	x				
• Waste Disposal:					
○ procedures for collection (<i>Guide, pp 73-74</i>)	x				
○ hazardous wastes are rendered safe before removal from facility (<i>Guide, pp 73-74</i>) [must]	x				
○ animal carcasses (<i>Guide, pp 73-74</i>)	x				
• Pest Control:					
○ regularly scheduled (<i>Guide, p 74</i>)	x				
○ documented program including control of pests and insecticide use (<i>Guide, p 74</i>)	x				
• Emergency, Weekend, and Holiday Animal Care:					
○ care provided by qualified personnel every day (<i>Guide, pp 74, 87</i>)	x				
○ provision for accessible contact information (<i>Guide, pp 74, 87</i>)	x				
○ emergency response plans in place to address major system failures (<i>Guide, 87</i>)	x				
○ veterinary care available after hours, weekends, and holidays (<i>Guide, pp 74, 114</i>) [must]	x				
• Identification:					
○ cage/tank cards contain required information (<i>Guide, pp 75, 87</i>)	x				
○ genotype information included and standardized nomenclature used when applicable (<i>Guide, pp 75, 87</i>)	x				
• Recordkeeping:					
○ water quality parameters and frequency of testing recorded (<i>Guide, p 88</i>)	x				
○ records kept on feeding, nonexpired food supplies, live cultures (<i>Guide, p 88</i>)	x				
• Storage:					
○ adequate space for equipment, supplies, food, substrate and refuse (<i>Guide, p 141</i>)	x				
○ substrate protected from contamination (<i>Guide, p 141</i>)	x				
○ food in vermin-free, temperature and humidity controlled area and protected from contamination (<i>Guide, p 141</i>)	x				
○ refuse storage is separate (<i>Guide, p 141</i>)	x				
○ carcass and animal tissue storage is separate, refrigerated below 7°C and cleanable (<i>Guide, p 141</i>)	x				
• Personnel:					
○ adequate space for locker rooms, administration and training (<i>Guide, p 135</i>)	x				

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Cagewash

	A*	M	S	C	NA
• Construction and Operation: <ul style="list-style-type: none"> dedicated central area for sanitizing cages and equipment is provided (<i>Guide, p 143</i>) cage-washing equipment meets need (<i>Guide, p 143</i>) doors, windows, floors, drainage, walls, ceilings (<i>Guide, pp 136-138</i>) convenient to animal areas/waste disposal (<i>Guide, p 143</i>) ease of access (including door size) facilitates use (<i>Guide, p 143</i>) sufficient space for staging and maneuvering (<i>Guide, p 143</i>) safety precautions/clothing/equipment used for waste disposal/prewash/acid wash (<i>Guide, p 143</i>) traffic flow clean to dirty with no contamination of clean equipment by dirty equipment and appropriate air pressurization (<i>Guide, p 143</i>) insulation and/or sound attenuation present as needed (<i>Guide, p 143</i>) utilities are appropriate (<i>Guide, p 143</i>) ventilation meets heat and humidity load (<i>Guide, p 143</i>) safety features (e.g., SOPs, warning signs, eyewash stations) are in use (<i>Guide, p 143</i>) functioning safety devices to prevent entrapment in washer/sterilizers (<i>Guide, p 143</i>) cage wash temperatures are monitored and records are available (<i>Guide, p 73</i>) appropriate clean cage storage (<i>Guide, p 141</i>) 					
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				
	x				

Special Facilities: Procedure Areas, Non-survival Surgeries, Laboratories, Rodent Surgeries, Imaging, Whole Body Irradiation, Hazardous Agent Containment, Behavioral Studies

	A*	M	S	C	NA
• General Considerations: <ul style="list-style-type: none"> labs used to house animals only when scientifically required and limited to minimum period necessary (<i>Guide, p 134</i>) drug storage, control, and expiration dates (<i>Guide, pp 115, 122</i>) sharps disposal (<i>Guide, p 74</i>) anesthetic monitoring (<i>Guide, p 120</i>) scavenging of anesthetic gases (<i>Guide, p 21</i>) safety features (e.g., SOPs, safety signs, eyewash stations, secure gas cylinders) are in place (<i>Guide, p 19</i>) carcass disposal (<i>Guide, pp 73-74</i>) 					
					x
	x				
	x				
					x
					x
	x				
	x				
• Hazardous Agent Containment: NEW <ul style="list-style-type: none"> facility adheres to APHIS, USDA and CDC Select Agent Regulations and other federal, state and local regulations including security measures (<i>Guide, p 148</i>) [must] 					
	x				
• Behavioral Studies: NEW <ul style="list-style-type: none"> facility minimizes airborne transmission of noise and ground-borne transmission of vibration (<i>Guide, p 149</i>) floor coverings reduce sound transmission (<i>Guide, p 149</i>) testing equipment allows for surface disinfection (<i>Guide, p 150</i>) components that cannot be cleaned are not in ready contact with animals and kept covered when not in use (<i>Guide, p 150</i>) housing areas are contiguous with testing areas when appropriate (<i>Guide, p 150</i>) 					
	x				
					x
	x				
	x				
	x				
	x				

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NOTES:

1. Newly revised whistleblower policy
2. Rooms with IVC have slightly fewer air exchanges than in guide

ⁱ Part 2 Subpart C - Research Facilities

- 2.31(b)(2) - "The Committee shall be composed of a Chairman and at least two additional members;... at least one shall not be affiliated in any way with the facility...such person will provide representation for general community interests in the proper care and treatment of animals." [PHS policy requires 5 members]

ⁱⁱ 2.32(c)(4) - "...No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject to any reprisal for reporting violations of any regulation or standards under the Act." [USDA requirement additional to PHS Policy]

ⁱⁱⁱ 2.31(d)(5) - "...shall conduct continuing reviews of activities...not less than annually." [PHS Policy requires a complete new review every 3 years utilizing all the criteria for initial review]

^{iv} 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

^v 2.36(b)(3) - "...exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the IACUC. A summary of all such exceptions must be attached to the facility's annual report." [Refers to USDA annual report]

^{vi} 2.31(c)(3) - "...Any failure to adhere to the plan and schedule that results in a significant deficiency remaining uncorrected shall be reported in writing within 15 business days by the IACUC, through the institutional official, to APHIS and any Federal agency funding that activity." [PHS Policy requires prompt reporting to OPRR of serious or continuing noncompliance with the PHS Policy or serious deviations from the provisions of the *Guide*]

^{vii} 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

^{viii} In addition to PHS requirements for IACUC review/application for funding, USDA regulations require:

2.31(d)(1)(ii) - "The principal investigator (PI) consider alternatives to procedures that cause more than momentary or slight pain or distress to the animals, and has provided a written narrative description of the methods and sources...used to determine that alternatives were not available."

2.31(d)(1)(iii) - "The PI has provided written assurance that the activities do not unnecessarily duplicate previous experiments."

2.31(d)(1)(iv) - "Procedures that may cause more than momentary or slight pain or distress to the animals will:

- involve in their planning, consultation with the attending veterinarian or his or her designee; [PHS Policy does not specify veterinary consultation]
- not include paralytics without the use of anesthesia;"

2.31(d)(1)(x) - "No animal will be used in more than one major operative procedure from which it is allowed to recover, unless justified for scientific reasons by the principal investigator, in writing..."

^{ix} 2.33(a)(1) - "In the case of a part-time attending veterinarian or consultant arrangements, the formal arrangements shall include a written program of veterinary care and regularly scheduled visits to the research facility." [USDA requirement additional]

^x 2.32(c) - "Humane methods of animal maintenance and experimentation, including the basic needs of each species, proper handling and care for the various species of animals used by the facility, proper pre-procedural and post-procedural care of animals, and aseptic surgical methods and procedures."

^{xi} 2.32(c) - additional specifications include:

- "proper use of anesthetics, analgesics, and tranquilizers for any species of animals used by the facility"
- "methods whereby deficiencies in animal care and treatment are reported, including deficiencies in animal care and treatment reported by any employee of the facility..."
- "utilization of services (e.g., National Agricultural Library, National Library of Medicine) to provide information on appropriate animal care and use, alternatives to the use of live animals in research, that could prevent unintended and unnecessary duplication of research involving animals, and regarding the intent and requirements of the Act." [USDA training specifications are more detailed than PHS Policy].

Semiannual Program Review Checklist

DEC 4 2019

^{xii} Part 3 Subpart A 3.8 - "...research facilities must develop, document, and follow an appropriate plan to provide dogs with the opportunity for exercise. In addition the plan must be approved by the attending veterinarian. The plan must provide written standard procedures..."

^{xiii} Part 3 Subpart D 3.81 - "...research facilities must develop, document, and follow an appropriate plan for environment enhancement adequate to promote the psychological well-being of nonhuman primates."

^{xiv} Part 3 Subpart A 3.6(c)(1) - "Each dog housed in a primary enclosure must be provided with a minimum amount of floor space, calculated as follows:
(length of dog in inches + 6)² / 144 = required floor space in square feet."

- Part 3 Subpart D 3.80 (b) - "Primary enclosures [for nonhuman primates] must meet the minimum space requirements provided in this subpart."

- In situations where the USDA regulations and the *Guide* differ with respect to space requirements, the larger of the two must be followed.

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Animal & Aquatic Facility Semi-Annual Inspection

Date Inspected: 25 NOV 2019

IACUC Inspection Committee Members:

- 1. Tetens**
- 2. Ware**

Inspection sheet:

Room Number	Room Use	Room Inspected (Y/N)	Deficiencies from Notes	Corrective action needed in room	Date Corrected	Correction Verified (Initials)
732	Aquatic Room	YES				
733	Aquatic Room	YES	Killifish gone (note)			
735	Aquatic Room	YES				
734/736	Aquatic room	YES	Pallets of equipment either need to be excess or cleaned and stored properly			
737	Aquatic Room	YES				
739	Aquatic Room	YES				
738	FREEZER	YES				
740/741	Water Cond.	YES				
742	Water Cond.	YES				
743	Aquatic Room	YES	Tank of FHM fry unlabeled. Dryrite on counter unlabeled			
744	Aquatic Room	YES				
753/754	Autoclave Room	YES	Arrange to remove autoclave --- not repairable (MWW)			
759	Animal Room	YES				
760	Cold Storage	YES				
761	Aerosolizer Room	YES				
762	Infectious Waste	YES				
763	Animal Room	YES				
764	Animal Room	YES				
765	Animal Room	YES				
766	Animal Room	YES				
767	Animal Room	YES				
768	Processing Lab	YES				
769	Bedding Storage	YES				
770	Animal Room	YES				
771	Animal Room	YES				
772	Animal Room	YES				
773	Laundry Room	YES				
774	Overflow Storage	YES				
775	Research Lab	YES				
776/778	Cage Wash Clean	YES				
778/780	Cage Wash	YES				

779/781	Terrestrial Room	YES				
782/784	Cage Wash Dirty	YES				
783	Chemistry Lab	YES				
785	Lab Room	YES				
786	Meeting Room	YES				
787	Office Room	YES				
789	Analysis Lab	YES				
792	Aquatic Invertebrate	YES				
790	Sentinel Lab	YES	Small stand with pump on top blocking access at rear of diluter system			
793	Necropsy	YES				
794	Necropsy	YES				
795	UV Light Room	YES				

General Facility Inspection Issues

Mammalian Housing

YES NO COMMENTS

Are cages clean and in good repair?			
Do cage cards accurately reflect cage occupancy?			
Do animals appear to have fresh food and water?			
Is the number of animals per cage within recommended limits? (Mice: 5/cage for GM-500)			
Is the number of cages per room reasonable?			

Aquatic Tanks

YES NO COMMENTS

Are tanks clean and in good repair?			
Are all tanks marked as to species, occupancy and age? Are there no more than 5% dead?			
Does the tank water appear clean and fresh?			
Is water flowing or aeration present ?			
Is the biomass to water ratio reasonable?			

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Is organism color and behavior normal? Unusual behavior and color is often due to treatments.			
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Room Environment	YES	NO	COMMENTS
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Do room logs indicate that temperature and humidity are held within recommended range? (Mammals 64-79F, 30-70% humidity)			
Does the room ventilation adequate (i.e., no excessive odors)?			
Are all rooms illuminated adequately?			
Is the hall lighting adequate?			

Physical Plant	YES	NO	COMMENTS
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Are any areas of the facility in need of repair or painting?			
Do the water conditioning and water holding rooms seem in good working order?			
Does the cage washer appear to be operational?			
Do traps and drains appear to be in good working order?			
Are the hall and animal room floors and walls in good repair?			
Are doors, rooms, and benches properly labeled with hazard and other warnings?			
Is the security system operational?			

Sanitation	YES	NO	COMMENTS
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Are the hallways clean and free of trash?			
Are the animal room floors clean and free of trash?			
Is animal bedding and cage materials area/room clean and neat?			

Is food storage room neat and orderly and the food on shelving?			
Is there any evidence of vermin?			

Facility Staffing	YES	NO	COMMENTS
Does the facility appear to be adequately staffed?			
Do you believe that the communication between veterinarian and staff are adequate?			

Checklist of Items to Monitor during an Aquatic Facility Inspection (December, 2006)

When inspecting the AWBERC 7th Floor Aquatic Facility, the following items should be monitored to insure the facility staff maintaining the facility at an acceptable level. Basic items, such as cleanliness of the floors, walls, benchtops, etc. are the same as what would be expected on the mammalian side. The same is true for insects in the light fixtures and insect traps. The following items are unique to the aquatic facility:

Dead fish.

Due to the large number of fish maintained in the AWBERC Aquatic Facility, it is not unusual to find dead fish in any of the various fish tanks. These fish are removed during the AM feeding procedure, as well as throughout the day when found. Any fish that is in tank, dead and showing signs of decomposition should be noted. If it is in that state, someone missed it when checking.

Unusual Fish Behavior

On occasion, problems with the FHM culture can be spotted based on unusual behavior in the fish. This will involve erratic swimming behavior, such as spinning, lethargy or swimming separately from the rest of the mass of fish. Resting on the bottom is not necessarily unusual. It is important to not mistake spawning behavior for erratic swimming. If a striped fish is seen swimming against the side of the tank with a fish that has no stripes, this is most likely a male and female fish involved in mating behavior. The zebrafish do not go through the mating behavior the FHM do. Otherwise, the behavior is similar between the 2 species. The appearance of curved gill covers is due to a genetic defect and not to any disease factors. We try to remove these fish as they occur.

Fish color

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FHM color should range from dark gray to light tan. Smaller fish are lighter in color. Fish that are black, or pale gray/white should be noted, as these are unusual colors. Zebra Fish color is gray, with some yellow on the bellies of the males.

Tank Cleanliness

The tanks should have limited amounts of debris on the bottom. This material is siphoned from the tanks twice each week, more frequently if required. If large deposits of excess food or fecal material are seen, they should be noted.

Water flow and Aeration

Unless otherwise noted on the tank, all FHM tanks should have water flowing into them. This is accomplished through small diameter tubes that are attached to the water system and deliver the water to the tanks. ZebraFish tanks (rooms 743 and 792) have no flow. ALL tanks must have aeration. If a tank lacks an airline tube, or if the airline tube is not providing air, it should be noted.

Food Cultures

Cultures of both brine shrimp (room 735) and rotifers (room 743) are maintained for use in feeding larval age animals. The brine shrimp are maintained in inverted 2L soda bottles and have color that ranges from brown to bright orange. These cultures are aerated until harvested. If they are not being aerated and it later in the day, this should be noted. The rotifers are in 4 glass aquaria in room 743. The newer cultures that are maturing are green. The older cultures are a brownish-green. Any color outside those ranges should be noted.

General Comments:

Listing of individual comments by inspection team:

Signed: _____; _____
Member, AWBERC IACUC Date

Signed: _____; _____
Member, AWBERC IACUC Date

Please forward to Mike Ware, IACUC chair

